

Final
Manure Task Force Meeting
July 18, 2005, DATCP, Madison

Task Force members in attendance:

Steve Born, Co-Chair	Retired UW Professor	Dana Cook	Manure Hauler, Sauk Co.
Brian Rude, Co-Chair	Dairyland Power; DATCP Board	Robert Selk	Trout Unlimited
Kevin Connors	Dane Co. Dept. of Land & Water Resources	Kevin Erb	UW-Extension
Monte Wick	Farmers Coop. Supply & Shipping	Dan Brick	Dairy Business Assoc.
Andrew Hanson	Midwest Environmental Advocates	Rebecca Power	River Alliance of WI
Jay Richardson	Prof. Dairy Producers of WI	Lisa Conley	WI Assoc. of Lakes
Richard Gorder	WI Farm Bureau Federation Board	Wally Lueder	WI Farmers Union
Ken Blomberg	Rural Water Assoc.	Also in attendance: ~40 agency staff and other interested parties	
Dan Fischer	Manitowoc Co. Exec.		

Upcoming meetings are scheduled for:

Wed. Aug 24
Mon. Sept 26 (Sept or Oct meeting may be scheduled outside of Madison)
Thurs. Oct 20
Mon. Nov 21
Thurs. Dec 15

Action Items:

Task Force Members:

- Return General Interest Opinion Poll by July 26, 2005 –email to Richard Castelnovo.

Co-Chairs:

- Consider off-site location for Sept. or Oct. meeting
- See “Future presentation ideas” at end of minutes & make arrangements for discussion on these topics if any of them are a priority.

DNR provide for next meeting:

- For how many manure runoff events did the operation not have adequate storage? (Terry Donovan)
- How many wells statewide were contaminated by something other than manure vs. those thought to be manure related? Does the eastern side of the state experience more groundwater contamination than the western half? (Liz Heinen)

- Number & percent of permitted/unpermitted farms
- Provide cost breakdown on what it costs to respond to Sugar River fish kill, forecast of lost use value, etc.
- Provide NR 243 code for meeting/link to website

Are the following available to provide to the Task Force members (or should someone be assigned to create them)?

- Map of nitrate contamination in wells across the state, compared to GW depth (unsure who this belongs to)
- One-page timeline of the various state rules (when boards are likely to take them up, when go to legislature, etc.)
- A matrix similar to the ones on Federal & State regulations but broken down by issue type: e.g., for the issue of manure storage, list all regulations that apply & how they apply to that issue. Same for winter landspreading issue, nutrient management plans, etc., to help Task Force members put these issues into their regulatory contexts.

Introductory Remarks:

• **DNR Secretary Scott Hassett**

Hassett stressed the importance of the Task Force and thanked members for participating in finding enduring solutions to enduring problems. Affirmed the measure of collaboration that he and DATCP Secretary Rod Nilsestuen expect from their agencies on this issue, in order to sustain a profitable and growing ag industry, a clean and plentiful supply of drinking water, and healthy fisheries all on the same landscape. Stressed importance of clean water &

groundwater to our economy, sport fisheries, tourism, quality of life, health, & growth. Manure spills resulting in contamination of wells and fish kills produce significant costs. Advocated for respectful dialogue with one another during this process to find better solutions to manure management.

- **DATCP Deputy Secretary Judy Ziewacz**

Ziewacz thanked co-chairs & members for serving. Reiterated that both Secretaries from the start made an agreement to collaborate on clean water & agricultural issues. Ag generates a significant portion of the state's economy, and needs to be green & growing. Emphasized that by keeping the landscape in agriculture rather than urbanization, dairy helps keep our tourism industry & fishing attractive. Ag needs to grow to remain competitive, primarily in the cheese industry. Need to look at new technologies & methods of managing and storing manure. Mentioned some additional long-term efforts underway to make ag more profitable by reducing and finding better uses for waste products (Bioindustry Consortium, etc). DATCP looks to the task force to provide workable solutions and best management practices.

Purpose & Ground Rules - Steve Born & Brian Rude

Purpose – see handout “*Manure Management Task Force Purpose*”

Ground Rules- see handout “*Meeting Ground Rules*”

- Task Force will meet at least 6 times. Website will serve as a repository for all Task Force information.
- Emphasized that this process will address contentious issues. We hope to reach consensus, but want to fully discuss them and consider all viewpoints.
- Active participation is a necessity; substitute members are discouraged in the interest of maintaining continuity.
- There will be opportunities for public input down the road.

Introductions

- **Agency Staff from DATCP & DNR** See handout “*Contacts & Resources*”

Several agency staff were on hand to provide information, answer questions, and observe. Key contacts are listed in the handout.

- **Task Force Members**

Members introduced themselves and described their backgrounds and interests relating to the issues at hand. Through these introductions, it was apparent that the Task Force brings many varied interests to the table, with several individuals representing multiple perspectives on issues related to manure management. The group consists of several members who have served on previous work groups addressing similar issues, farmers from a variety of operation types and backgrounds, those with legal perspectives and experience with environmental enforcement, representatives from environmental groups specializing in water resources, anglers, manure haulers, researchers, rural residents, industries supporting agriculture, town and county administrators, and those working with drinking water supplies.

Framing the Issues –DNR staff: Gordon Stevenson, Mark Cain, Liz Heinen

See DNR PowerPoint handout containing three slide presentations: “*Reported Manure Runoff Events*,” “*Surface Water Impacts from Manure Landspreading*”, and “*Drinking Water Impacts from Manure Landspreading*”

Stevenson presented data from 52 documented manure runoff events over the past year, the results of which indicate that the majority of events occur in February and March on frozen or snow-covered ground, are from dairy operations, and are due to landspreading liquid manure. Results of such events include discharges to waterbodies, 17% which resulted in fish kills, and 20% resulted in well contaminations. Manure runoff events occur statewide and are an ongoing problem, though severity of events seems to be increasing. Cain described the types of acute and chronic impacts that are experienced, and provided case studies including a detailed review of fish kill event. Heinen emphasized human health risks caused by well contaminations, and detailed several cases where safety levels were greatly surpassed. She also described how contamination plumes flow through communities' groundwater supplies and that common 'fixes' of drilling deeper wells will no longer be effective if the source of contamination continues. Through research studies it is becoming evident that some commonly held beliefs about how contamination occurs may need to be reexamined.

Discussion after the presentations focused on costs of repairing damage, how long it takes for a stream to flush a manure event and for fish populations to rebound, and the legality of spreading instances that resulted in contamination. It was pointed out that effects of manure runoff events can be irreversible for lakes since they do not flush as streams do. Also discussed various factors that may be contributing to an increase in manure runoff events. These include management issues, such as the trend for operations to convert to liquid manure, and operations expanding without increasing their

storage capacity. Also includes natural issues, such as extended thaw periods due to climate change, and more intense rain events. And it includes social issues, such as more stress on streams from urban areas resulting in lower thresholds for absorbing impacts, and growing numbers of rural residents who may report runoff events with a higher frequency. The Task Force needs to address these issues from within a risk assessment framework.

Institutional framework –Pat Murphy, NRCS

See handout: *“Federal Programs Affecting Manure Management”*

- Murphy gave a presentation on the various federal cost-share programs currently in place that can be employed to address manure management issues & voluntary conservation measures. He described the Environmental Quality Incentives Program (EQIP), the Conservation Security Program (CSP, which is currently a pilot program), the Conservation Reserve Program (CRP), and the Conservation Reserve Enhancement Program (CREP), each of which is detailed in the handout.
- Discussion focused primarily on comprehensive nutrient management plans (CNMPs) & that there is cost-sharing available for initial development of CNMPs. CNMPs are very high-level plans, containing about 80% of the documentation that is required in a WPDES permit. A Licensed Professional Engineer, Certified Crop Advisor, or equivalent is required to create/approve a CNMP. EQIP funds will cover a one-time startup payment for a CNMP, and may also cover 2nd and 3rd year updates (CNMPs need to be updated each year). Discussed costs of creating CNMPs & the large number of farms that have yet to create CNMPs. Currently ~30% of operators with a CNMP have their plans in operation; each plan can require significant time for implementation. A question was raised about what kind of tracking goes on to see how these plans are doing over time.

Applicable State Laws

See handout *“State and Local Laws Affecting Manure Management”* and *“Manure Management on Wisconsin Dairy Farms”*

- **NRCS 590 Technical Standards –Jim Vandenbrook, DATCP**
NRCS 590 outlines nutrient management & additional manure management restrictions. Applies to all WI farmers in 2008, but requires cost sharing. However, certain local ordinances or participation in Farmland Preservation might require nutrient management plans without cost sharing. Attempts to protect the environment while maintaining farm profitability, and to minimize both acute & chronic affects. Updates to outdated 590 are currently being proposed to require phosphorus based planning on an annual basis. Specifies restrictions on applying to frozen/snow covered ground, and setback areas to lakes and streams or other susceptible areas. Limits application rates to >7000 gal/acre. On non-frozen fields, limits unincorporated liquid manure applications. The proposed 590 is less restrictive than proposed NR 243. If adopted, 590 could potentially be implemented this upcoming winter.
- **NR 151 Performance Standards – Gordon Stevenson, DNR**
NR 151 contains both agricultural and urban performance standards. Among others, the agricultural standards include compliance with certain manure management prohibitions, meeting tolerable soil loss levels (T), conducting manure storage in an environmentally safe way, and following a nutrient management plan that complies with NRCS 590.
- **NR 243 Animal Feeding Operations – Gordon Stevenson, DNR**
NR 243 is currently undergoing a revision process prompted by federal revisions to regulations. Operations of 1000 animal units or more (Concentrated Animal Feeding Operations, or CAFOs) are considered by federal government as a point source and are regulated under NR 243. These operations are not eligible to receive state cost-sharing for any regulated practices. For CAFOs, NR 243 revisions include a requirement for 6 months manure storage capacity, no surface spreading of liquid manure on frozen/snow covered ground; restrictions on solid spreading in Feb./March, and requirement of an emergency response plan. NR 243 winter restrictions apply only to the ~140 permitted farms, about half of which already have the necessary storage. DNR has scheduled a number of public hearings on NR 243 revisions during August, 2005. NR 243 is expected to go to the NR Board in Dec 2005. (The task force website has a link to the NR 243 information, <http://www.manuretaskforce.wi.gov/links.html>)
- **Gap in regulatory authority to address well contaminations– Gordon Stevenson, DNR**
DNR has limited authority to address cases of well contamination because burden of proof is often problematic. Manure can be identified as the contaminant but the source of that manure can be difficult to pinpoint. DNR has a

well compensation fund, but it does not address bacteriological agents. Therefore DNR cannot provide compensation to owners of manure-contaminated wells. DNR can provide bottled water. However, if an operation is a WPDES permitted farm, action can be taken if permit violations were involved.

Applicable Local Regulations – Richard Castelnovo, DATCP

- **Livestock Siting Law (ATCP 51)**– The Livestock Siting Law was enacted by statute to create an overlay on local regulations. It proposes standards that would be imposed on operations in areas where a conditional use permit is required. Under the law, local governments must apply standards contained in the Livestock Siting Rule if they require local approval for new and expanded livestock facilities. A map was shown indicating which counties currently require a conditional use permit. The rule is projected to affect 50-70 farms per year, primarily those operations with 500 animal units or more. Some local governments do not regulate via conditional use permits & therefore livestock siting law will not apply. Although no cost sharing is required for compliance with the siting standards, cost sharing may be available through counties (supplied by DNR/DATCP). Cost share dollars are primarily available for manure storage (some landspreading restrictions apply for operators who accept cost sharing), and limited state funds are available to cover nutrient management planning (the federal EQIP program is currently the primary source of dollars for nutrient management planning).
The siting criteria included in proposed ATCP 51 require:
 - Storage according to an operator's nutrient management plan, but does not specify any required capacity.
 - If an operation has storage it must be properly constructed, and existing storage units must be safe.
 - For landspreading, farmers must develop a nutrient management plan in accordance with NRCS 590.
 - An incident plan for emergencies.
- **Farmland Preservation** - see handout "*Farmland Preservation Program Summary Sheet 2005*" Farmers who participate must meet county standards & NR 151 Performance Standards.
- **Local ordinances** – *See handouts of news articles dealing with county responses to manure management.* Approximately 55 counties use manure storage ordinances. These require that those who build manure storage do so according to standards. They do not require a minimum size. A nutrient management plan must be included as part of the permit to build manure storage, as well as other various requirements on a county-by-county basis.

Emerging options in technologies for manure management – Kevin Erb, UWEX

See handout "*Summary of Alternative Manure Technologies*"

Management solutions must:

- be economical and reduce the overall cost of handling manure;
- reduce or eliminate manure's negatives (odor, water pollution, contamination potential); and
- build on the characteristics of manure (methane production, phosphorus).

There are a limited number of grant programs to help cover costs for these types of endeavors.

- **Anaerobic digesters:** maximize breakdown of solids with anaerobic bacteria and harvest resulting gasses to produce electricity. They rely on certain temperature ranges and constant mixing. Certain systems produce a sterile product. Digesters can be very expensive to install, and do not eliminate/reduce phosphorus. The resulting product has smaller particle size of solids, and may have less overall solids. Odor is reduced but not eliminated; flies are reduced. Cost: \$300,000 or more
- **Composting (Aerobic system):** Requires solid manure to start; gives off carbon dioxide & water vapor. Composting is relatively cheap to install with equipment already available. Can be more technical and can produce a sterile product. All P & K is retained; some N is lost. Results in some air quality issues. Finished product looks like topsoil; goes into the retail market. However, the market could easily become saturated in certain areas. Must be properly managed to avoid groundwater contamination. The cold can be an issue in Wisconsin. Can generate compost for 10-15\$ per cubic yard, or up to 27\$/cy if need to separate solids.
- **Bio-drying:** Liquid manure is put into a heated area to separate liquids from solids. Hasn't been used much in WI.
- **Manure Pit Aeration:** A technology using industrial/sewage processes. Aeration in top 3 feet of pit to get aerobic bacteria going. No results on efficacy available yet.

- **Manure Separators:** No data available yet. Much P is attached to smaller particles that go into the liquid portion. Operations with sand bedding get good results because the P drops out with the sand. Can use solids directly for bedding/compost; liquids can be land applied. It does not reduce P, but can concentrate it enough to reduce the price of transporting it. Using flocculation to remove the P triggers further regulations for landspreading due to the addition of chemicals.
- **Settling basin:** Often used in conjunction with separators.

Miscellaneous points

- We may need to narrow the scope of this task force to those portions on which we can make meaningful recommendations.
- Geese, other wildlife, and pets also contribute to nutrient problems in many areas of the state. Hassett noted that DNR is dealing with these issues as well, but that those topics are outside the scope of this task force.
- Decisions about whether or not to have storage and how much to have is a management decision based on convenience & individual needs.
- One main problem in managing manure is that there is such a small window of time during which manure can be spread, resulting in a lot of manure being spread across the landscape all at the same time.
- The economics of management options are shaped to some degree by public policy. Many industries have asserted that certain things weren't economically viable, but found ways to make those practices viable once public policy directed the necessity of making those changes.

Future presentation ideas:

- Description of current ag practices, tradeoffs, management strategies.
- 2.5 years of Buffer Initiative research that will be presented in late fall 2005.
- Industry Trends—for instance, how much do we want to plan for the smaller farms that may not be around much longer?
- Economic drivers and how they influence current practices. Are there innovative economic incentives that other states/nations are using? How much do families need to expand in order to maintain quality of life?
- Barriers to adopting BMPs—economic practices may be one; what other types of barriers exist?
- What is the international trade situation like, and how does it affect dairy in WI?
- Discovery Farms presentation on their research findings on winter spreading
- Mark Powell at UW Dairy Forage Research Center to describe his study interviewing farmers on their practices

Results from opinion survey

Background: The task force members were given a July 26th deadline to respond to the survey. Several reminders were sent to members and an electronic copy of the survey was provided to facilitate a response. Thirteen of the task force members responded to the survey. Attached is a table that charts the thirteen responses by questions asked. Also attached is a list of narrative comments provided by the respondents.

Overview of survey results: In terms of new technology, survey results show interest but it is not clear how this will address immediate challenges of improving manure management. Task force members are willing to look at standards for manure application but it is difficult to identify clear preferences. There is a special interest in looking at procedures used by manure haulers. While the survey suggests a preference for information and education as an approach to implement standards, it did not probe members regarding the effectiveness or practicality of different approaches. Imposing permit or license requirements for farmers was of least interest to the group. In terms of related issues, members showed more interest in well remediation than alternative compensation.

Committee members provided additional comments to open-ended questions on the survey. The comments ranged from specific (e.g. target implementation on critical lands most likely to impact water, improve investigation procedures to document incidents) to general (e.g. consider the economics of transporting manure). These comments may provide possibilities for focusing the work of the task force.

Conclusions: The survey results reflect member preferences and perspectives that may be useful in focusing the direction of the task force. However, the survey is limited in its usefulness. The survey did not ask members to consider key aspects of the issues before the task force, such as the effectiveness or practicality of different approaches. These are essential to addressing the charge of the task force; namely, to provide advice on reducing manure runoff events (primarily from winter spreading of manure) and protecting ground and surface water from manure runoff. As part of an overall process designed to focus its work, the task force can make use of the survey results to better understand member preferences and perspectives.